

## SEQUENCE LISTING

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<110> Ish-Horowicz, David
      Henrique, Domingos Manuel Pinto
      Lewis, Julian Hart
      Artavanis Tsakonas, Spyridon
      Gray, Grace
<120> ANTIBODIES TO VERTEBRATE DELTA PROTEINS
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<141> 2001-02-15
<150> 08/981,392
<151> 1997-12-22
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							ttc Phe									918
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                                                 285
                             280
Asn Gln Asp Leu Asn Tyr Cys Thr Asn His Arg Pro Cys Lys Asn Gly
    290
                         295
                                             300
Gly Thr Cys Phe Asn Thr Gly Glu Gly Leu Tyr Thr Cys Lys Cys Ala
                                                              320
                                         315
                     310
305
Pro Gly Tyr Ser Gly Asp Asp Cys Glu Asn Glu Ile Tyr Ser Cys Asp
                                     330
                                                          335
                325
Ala Asp Val Asn Pro Cys Gln Asn Gly Gly Thr Cys Ile Asp Glu Pro
                                 345
                                                     350
            340
His Thr Lys Thr Gly Tyr Lys Cys His Cys Arg Asn Gly Trp Ser Gly
        355
                             360
Lys Met Cys Glu Glu Lys Val Leu Thr Cys Ser Asp Lys Pro Cys His
                         375
                                             380
    370
Gln Gly Ile Cys Arg Asn Val Arg Pro Gly Leu Gly Ser Lys Gly Gln
                                                              400
                                         395
385
                    390
Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr Ser Gly Pro Asn Cys Asp
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Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro Cys Ile Asn Gly Gly Ser
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<210> 6

<211> 832

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Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu Gly His Gln Cys Glu Asn
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                                             460
Gly Gly Thr Cys Ile Asp Met Val Asn Gln Tyr Arg Cys Gln Cys Val
                    470
                                         475
Pro Gly Phe His Gly Thr His Cys Ser Ser Lys Val Asp Leu Cys Leu
                                                          495
                                     490
                485
Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys Leu Asn Leu Asn Asn Asp
            500
                                 505
                                                      510
Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr Gly Lys Asp Cys Ser Val
                             520
Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys His Asn Gly Gly Thr Cys
    530
                         535
                                             540
Met Asn Arg Val Asn Ser Phe Glu Cys Val Cys Ala Asn Gly Phe Arg
                                         555
                                                              560
545
                    550
Gly Lys Gln Cys Asp Glu Glu Ser Tyr Asp Ser Val Thr Phe Asp Ala
                                     570
                565
His Gln Tyr Gly Ala Thr Thr Gln Ala Arg Ala Asp Gly Leu Ala Asn
                                                      590
            580
                                 585
Ala Gln Val Val Leu Ile Ala Val Phe Ser Val Ala Met Pro Leu Val
        595
                             600
                                                 605
Ala Val Ile Ala Ala Cys Val Val Phe Cys Met Lys Arg Lys
                         615
                                             620
Arg Ala Gln Glu Lys Asp Asn Ala Glu Ala Arg Lys Gln Asn Glu Gln
                                                              640
625
                                         635
                    630
Asn Ala Val Ala Thr Met His His Asn Gly Ser Ala Val Gly Val Ala
                                     650
                645
Leu Ala Ser Ala Ser Met Gly Gly Lys Thr Gly Ser Asn Ser Gly Leu
                                                      670
                                 665
            660
Thr Phe Asp Gly Gly Asn Pro Asn Ile Ile Lys Asn Thr Trp Asp Lys
        675
                             680
                                                 685
Ser Val Asn Asn Ile Cys Ala Ser Ala Ala Ala Ala Ala Ala Ala Ala
Ala Ala Ala Asp Glu Cys Leu Met Tyr Gly Gly Tyr Val Ala Ser Val
                                                              720
                    710
                                         715
705
Ala Asp Asn Asn Asa Ala Asn Ser Asp Phe Cys Val Ala Pro Leu Gln
                                     730
                                                          735
                725
Arg Ala Lys Ser Gln Lys Gln Leu Asn Thr Asp Pro Thr Leu Met His
                                 745
                                                     750
            740
Arg Gly Ser Pro Ala Gly Thr Ser Ala Lys Gly Ala Ser Gly Gly Gly
                             760
Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser Val Leu Gly Glu Gly Ser
                                             780
                         775
    770
Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala Ala Gly Val Ala Gly
                                                              800
785
                    790
                                         795
Asp Leu Phe Ile Gln Leu Met Ala Ala Ala Ser Val Ala Gly Thr Asp
                                     810
                805
Gly Thr Ala Gln Gln Gln Arg Ser Val Val Cys Gly Thr Pro His Met
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                                                     830
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<213> Drosophila
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Val Gln Cys Ala Val Thr Tyr Tyr Asn Thr Thr Phe Cys Thr Thr Phe
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Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro Ser Gly Phe Ser Gly Thr

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Cys Arg Pro Arg Asp Asp Gln Phe Gly His Tyr Ala Cys Gly Ser Glu
Gly Gln Lys Leu Cys Leu Asn Gly Trp Gln Gly Val Asn Cys
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<213> Gallus gallus
<400> 8
Val Thr Cys Ala Glu His Tyr Tyr Gly Phe Gly Cys Asn Lys Phe Cys
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Arg Pro Arg Asp Asp Phe Phe Thr His His Thr Cys Asp Gln Asn Gly
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Asn Lys Thr Cys Leu Glu Gly Trp Thr Gly Pro Glu Cys
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                                                 45
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<211> 43
<212> PRT
<213> Drosophila
<400> 9
Asn Leu Cys Ser Ser Asn Tyr His Gly Lys Arg Cys Asn Arg Tyr Cys
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                 5
                                     10
                                                         15
Ile Ala Asn Ala Lys Leu His Trp Glu Cys Ser Thr His Gly Val Arg
Arg Cys Ser Ala Gly Trp Ser Gly Glu Asp Cys
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                             40
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<211> 45
<212> PRT
<213> Drosophila
<400> 10
Val Thr Cys Ala Arg Asn Tyr Phe Gly Asn Arg Cys Glu Asn Phe Cys
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Asp Ala His Leu Ala Lys Ala Ala Arg Lys Arg Cys Asp Ala Met Gly
Arg Leu Arg Cys Asp Ile Gly Trp Met Gly Pro His Cys
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                             40
                                                 45
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<211> 2692
<212> DNA
<213> mouse
<220>
<221> CDS
<222> (31)...(2199)
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<400> 11
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                                  Ala Met Gly Arg Arg Ser Ala Leu
```

_		_				ctg Leu				_		_	 102
						gag Glu							150
						ggg Gly							198
						ctc Leu							246
						ggc Gly 80							294
_	_					gat Asp						_	342
_				_		ttc Phe				_			390
	_			_	_	cat His							438
	_			_	_	atc Ile	_	_					486
						tct Ser 160							534
	_					cgg Arg			_	-			582
	_		_			tgc Cys							630
			_			Gly							678
	_	_				cca Pro							726
						cca Pro 240							774

							gag Glu									822
							tgg Trp									870
							gac Asp									918
	_						tgc Cys									966
							tat Tyr 320								_	1014
	Asp	Glu	Cys	Ala	Pro	Ser	ccc Pro	Cys	Lys	Asn	Gly	_	_	_		1062
_			_				tgc Cys									1110
							atg Met									1158
							aac Asn									1206
-		_					ttc Phe 400		_							1254
_							aac Asn								_	1302
aac Asn 425	tct Ser	tac Tyr	ctg Leu	tgc Cys	cgg Arg 430	tgc Cys	cag Gln	gct Ala	ggc Gly	ttc Phe 435	tcc Ser	Gly	agg Arg	tac Tyr	tgc Cys 440	1350
	_			_	_		gcc Ala									1398
							gac Asp									1446
							gcc Ala 480									1494

•

Pro	_				_		_		_	-					atg Met	1542
tgt Cys 505																1590
cct Pro																1638
atg Met		_														1686
gtg Val			-									_	_	_	_	1734
tgc Cys	Val	Arg	Leu	Lys		Gln	Lys	His	Gln	Pro	Pro	Pro				1782
ggg Gly 585		•														1830
aag Lys	_	_		_	_				_							1878
aac Asn	_	_		_								_				1926
ttt Phe	_	_	•													1974
aag Lys																2022
aag Lys 665																2070
tta Leu		_														2118
tct Ser			_	_		_										2166
gaa Glu	_	_		_	-						taag	gatgo	gaa <u>c</u>	gcgat	gtggc	2219
										1					L	2270

aaaattccca tttctcttaa ataaaattcc aaggatatag ccccgatgaa tgctgctgag 2279

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agaggaaggg agaggaaacc cagggactgc tgctgagaac caggttcagg cgaacgtggt 2339
tototoagag tragcagagg cgcccgacac tgccagccta ggctttggct gccgctggac 2399
tgcctgctgg ttgttcccat tgcactatgg acagttgctt tgaagagtat atatttaaat 2459
ggacgagtga cttgattcat ataggaagca cgcactgccc acacgtctat cttggattac 2519
tatgagccag tctttccttg aactagaaac acaactgcct ttattgtcct ttttgatact 2579
qaqatqtqtt ttttttttt cctagacggg aaaaagaaaa cgtgtgttat tttttttggg 2639
atttqtaaaa atatttttca tgattatggg agagctccca acgcgttgga ggt
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<211> 722
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<213> mouse
<400> 12
Met Gly Arg Arg Ser Ala Leu Ala Leu Ala Val Val Ser Ala Leu Leu
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Cys Gln Val Trp Ser Ser Gly Val Phe Glu Leu Lys Leu Gln Glu Phe
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Val Asn Lys Lys Gly Leu Leu Gly Asn Arg Asn Cys Cys Arg Gly Gly
        35
                             40
                                                 45
Ser Gly Pro Pro Cys Ala Cys Arg Thr Phe Phe Arg Val Cys Leu Lys
    50
                         55
                                             60
His Tyr Gln Ala Ser Val Ser Pro Glu Pro Pro Cys Thr Tyr Gly Ser
65
Ala Val Thr Pro Val Leu Gly Val Asp Ser Phe Ser Leu Pro Asp Gly
                85
                                     90
Ala Gly Ile Asp Pro Ala Phe Ser Asn Pro Ile Arg Phe Pro Phe Gly
                                 105
            100
                                                     110
Phe Thr Trp Pro Gly Thr Phe Ser Leu Ile Ile Glu Ala Leu His Thr
                             120
Asp Ser Pro Asp Asp Leu Ala Thr Glu Asn Pro Glu Arg Leu Ile Ser
    130
                         135
                                             140
Arg Leu Thr Thr Gln Arg His Leu Thr Val Gly Glu Glu Trp Ser Gln
145
                    150
                                         155
                                                              160
Asp Leu His Ser Ser Gly Arg Thr Asp Leu Arg Tyr Ser Tyr Arg Phe
                165
                                     170
Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser Val Phe Cys Arg
                                                     190
            180
                                 185
Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly Asp Arg Gly Glu
                             200
                                                 205
        195
Lys Met Cys Asp Pro Gly Trp Lys Gly Gln Tyr Cys Thr Asp Pro Ile
                        215
                                             220
Cys Leu Pro Gly Cys Asp Asp Gln His Gly Tyr Cys Asp Lys Pro Gly
                                         235
                                                             240
225
                    230
Glu Cys Lys Cys Arg Val Gly Trp Gln Gly Arg Tyr Cys Asp Glu Cys
                245
                                     250
                                                         255
Ile Arg Tyr Pro Gly Cys Val His Gly Thr Cys Gln Gln Pro Trp Gln
                                 265
                                                     270
            260
Cys Asn Cys Gln Glu Gly Trp Gly Gly Leu Phe Cys Asn Gln Asp Leu
                             280
                                                 285
        275
Asn Tyr Cys Thr His His Lys Pro Cys Arg Asn Gly Ala Thr Cys Thr
    290
                        295
                                             300
Asn Thr Gly Gln Gly Ser Tyr Thr Cys Ser Cys Arg Pro Gly Tyr Thr
305
                    310
Gly Ala Asn Cys Glu Leu Glu Val Asp Glu Cys Ala Pro Ser Pro Cys
                325
                                     330
                                                         335
Lys Asn Gly Ala Ser Cys Thr Asp Leu Glu Asp Ser Phe Ser Cys Thr
                                                     350
            340
                                 345
Cys Pro Pro Gly Phe Tyr Gly Lys Val Cys Glu Leu Ser Ala Met Thr
                             360
Cys Ala Asp Gly Pro Cys Phe Asn Gly Gly Arg Cys Ser Asp Asn Pro
```

```
375
                                             380
    370
Asp Gly Gly Tyr Thr Cys His Cys Pro Leu Gly Phe Ser Gly Phe Asn
                                                              400
                    390
                                         395
385
Cys Glu Lys Lys Met Asp Leu Cys Gly Ser Ser Pro Cys Ser Asn Gly
                                                          415
                405
                                     410
Ala Lys Cys Val Asp Leu Gly Asn Ser Tyr Leu Cys Arg Cys Gln Ala
                                 425
                                                      430
            420
Gly Phe Ser Gly Arg Tyr Cys Glu Asp Asn Val Asp Asp Cys Ala Ser
                             440
                                                 445
Ser Pro Cys Ala Asn Gly Gly Thr Cys Arg Asp Ser Val Asn Asp Phe
                                             460
    450
                         455
Ser Cys Thr Cys Pro Pro Gly Tyr Thr Gly Lys Asn Cys Ser Ala Pro
                                                              480
                    470
465
Val Ser Arg Cys Glu His Ala Pro Cys His Asn Gly Ala Thr Cys His
                485
                                     490
                                                          495
Gln Arg Gly Gln Arg Tyr Met Cys Glu Cys Ala Gln Gly Tyr Gly Gly
                                 505
                                                      510
            500
Pro Asn Cys Gln Phe Leu Leu Pro Glu Pro Pro Pro Gly Pro Met Val
                             520
Val Asp Leu Ser Glu Arg His Met Glu Ser Gln Gly Gly Pro Phe Pro
                                             540
    530
                         535
Trp Val Ala Val Cys Ala Gly Val Val Leu Val Leu Leu Leu Leu Leu
                                                              560
545
                    550
                                         555
Gly Cys Ala Ala Val Val Cys Val Arg Leu Lys Leu Gln Lys His
                                     570
                565
Gln Pro Pro Glu Pro Cys Gly Gly Glu Thr Glu Thr Met Asn Asn
                                 585
                                                      590
            580
Leu Ala Asn Cys Gln Arg Glu Lys Asp Val Ser Val Ser Ile Ile Gly
        595
                                                  605
                             600
Ala Thr Gln Ile Lys Asn Thr Asn Lys Lys Ala Asp Phe His Gly Asp
                         615
                                             620
His Gly Ala Glu Lys Ser Ser Phe Lys Val Arg Tyr Pro Thr Val Asp
625
                                         635
                                                              640
                    630
Tyr Asn Leu Val Arg Asp Leu Lys Gly Asp Glu Ala Thr Val Arg Asp
                                     650
Thr His Ser Lys Arg Asp Thr Lys Cys Gln Ser Gln Ser Leu Gln Glu
                                                      670
                                 665
Lys Arg Arg Ser Pro Gln His Leu Gly Val Gly Arg Phe Leu Thr Glu
                             680
                                                  685
        675
Asn Arg Pro Glu Ser Val Tyr Ser Thr Ser Lys Asp Thr Lys Tyr Gln
                         695
                                             700
    690
Ser Val Tyr Val Leu Ser Ala Glu Lys Asp Glu Cys Val Ile Ala Thr
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                                         715
                                                              720
705
Glu Val
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<210> 13
<211> 578
<212> PRT
<213> Artificial Sequence
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<220>

<223> Consenses sequence of Chick Delta and Mouse Delta

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        35
                             40
Lys His Tyr Gln Ala Ser Val Ser Pro Glu Pro Pro Cys Thr Tyr Gly
                         55
Ser Ala Thr Pro Val Leu Gly Ser Phe Ser Pro Asp Gly Ala Gly Asp
65
Pro Ala Phe Ser Asn Pro Ile Arg Phe Pro Phe Gly Phe Thr Trp Pro
                85
                                     90
Gly Thr Phe Ser Leu Ile Ile Glu Ala Leu His Thr Asp Ser Pro Asp
                                                      110
            100
                                 105
Asp Leu Thr Glu Asn Pro Glu Arg Leu Ile Ser Arg Leu Thr Gln Arg
        115
                             120
His Leu Val Gly Glu Glu Trp Ser Gln Asp Leu His Ser Ser Gly Arg
    130
                         135
Thr Asp Leu Tyr Ser Tyr Arg Phe Val Cys Asp Glu His Tyr Tyr Gly
                    150
                                         155
                                                              160
145
Glu Gly Cys Ser Val Phe Cys Arg Pro Arg Asp Asp Phe Gly His Phe
                                     170
                165
Thr Cys Gly Arg Gly Glu Lys Cys Pro Gly Trp Lys Gly Gln Tyr Cys
                                 185
Thr Pro Ile Cys Leu Pro Gly Cys Asp Gln His Gly Cys Asp Lys Pro
        195
                             200
                                                  205
Gly Glu Cys Lys Cys Arg Val Gly Trp Gln Gly Arg Tyr Cys Asp Glu
                         215
                                             220
    210
Cys Ile Arg Tyr Pro Gly Cys Val His Gly Thr Cys Gln Gln Pro Trp
                    230
                                         235
Gln Cys Asn Cys Gln Glu Gly Trp Gly Gly Leu Phe Cys Asn Gln Asp
                245
Leu Asn Tyr Cys Thr His His Lys Pro Cys Asn Gly Ala Thr Cys Thr
                                                      270
            260
Asn Thr Gly Gln Gly Ser Tyr Thr Cys Ser Cys Arg Pro Gly Tyr Thr
                             280
                                                 285
Gly Cys Glu Glu Glu Cys Pro Cys Lys Asn Gly Ser Cys Thr Asp Leu
                                             300
                         295
    290
Glu Ser Ser Cys Thr Cys Pro Pro Gly Phe Tyr Gly Lys Cys Glu Leu
                                                              320
305
                     310
Ser Ala Met Thr Cys Ala Asp Gly Pro Cys Phe Asn Gly Gly Arg Cys
                325
                                     330
Asp Asn Pro Asp Gly Gly Tyr Cys Cys Pro Leu Gly Ser Gly Phe Asn
                                                      350
                                 345
            340
Cys Glu Lys Lys Asp Cys Ser Ser Pro Cys Asn Gly Ala Cys Val Asp
        355
                             360
Leu Gly Asn Ser Tyr Cys Cys Gln Ala Gly Phe Gly Arg Cys Asp Asn
                         375
Val Asp Asp Cys Ala Ser Pro Cys Asn Gly Gly Thr Cys Asp Val Asn
                                                              400
385
                    390
                                         395
Asp Ser Cys Thr Cys Pro Pro Gly Tyr Gly Lys Asn Cys Ser Pro Val
                                     410
                                                          415
                405
Ser Arg Cys Glu His Pro Cys His Asn Gly Ala Thr Cys His Arg Arg
            420
Tyr Cys Glu Cys Ala Gly Tyr Gly Gly Asn Cys Gln Phe Leu Leu Pro
                             440
                                                 445
        435
Glu Pro Pro Gly Pro Val Asp Glu Glu Gln Phe Pro Trp Ala Val Cys
    450
                        455
                                             460
Ala Gly Leu Val Leu Leu Leu Gly Cys Ala Ala Val Val Cys Val
                    470
                                         475
Arg Leu Lys Gln Lys Pro Glu Cys Glu Thr Glu Thr Met Asn Asn Leu
                                     490
                                                          495
                485
Ala Asn Cys Gln Arg Glu Lys Asp Ser Ser Ile Gly Ala Thr Gln Ile
                                 505
                                                     510
            500
Lys Asn Thr Asn Lys Lys Asp Phe His Asp Lys Lys Val Arg Tyr Pro
                                                 525
        515
                             520
```

```
Val Asp Tyr Asn Leu Val Leu Lys Val His Lys Lys Cys Ser Glu Glu
                        535
                                             540
    530
Lys Ala Leu Arg Lys Arg Pro Ser Val Tyr Ser Thr Ser Lys Asp Thr
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545
                    550
                                         555
Lys Tyr Gln Ser Val Tyr Val Ser Glu Lys Asp Glu Cys Ile Ala Thr
                                    570
                                                         575
                565
Glu Val
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<211> 525
<212> DNA
<213> Homo sapiens
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tccgacaaga atggmtttca aggcccgcta ccccagcgtg gactataact cgtgcaggac 180
ctcaagggtg acgacaccgc cgtcaggacg tcgcacagca agcgtgacac caagtgccag 240
tececagget ecteagggag gagaagggga eccegaceae aeteaggggk tgegtgetge 300
gggccgggct caggagggg tacctggggg gtgtcttcct ggaaccactg ctccgtttct 360
cttcccaaat gttctcatgc attcattgtg gattttctct attttccttt tagtggagaa 420
gcatctgaaa gaaaaaggcc ggactcgggc tgttcaactt caaaagacac caagtaccag 480
                                                                   525
tcqqtqtacq tcatatccqa qqaqaaqqac qaqtqcqtca tcqca
<210> 15
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of humna delta
<220>
<221> VARIANT
<222> 4
<223> Xaa = Any Amino Acid
<400> 15
Tyr Asp Glu Xaa Pro Gly Glu Leu Pro Ala
<210> 16
<211> 44
<212> PRT
<213> Artificial Sequence
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<223> Predicted amino acid sequence of humna delta
<220>
<221> VARIANT
<222> 11, 15, 23, 24, 28
<223> Xaa = Any Amino Acid
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Glu Gly His Leu Ser Gln His His Arg Gly Xaa Val Arg Ser Xaa Thr
Pro Thr Arg Arg Thr Xaa Xaa Arg Gly Thr Xaa Ala Ser Asp Lys
```

```
30
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                                 25
Asn Gly Phe Gln Gly Pro Leu Pro Gln Arg Gly Leu
        35
<210> 17
<211> 118
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<213> Artificial Sequence
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<221> VARIANT
<222> 41
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Leu Val Gln Asp Leu Lys Gly Asp Asp Thr Ala Val Arg Thr Ser His
 1
                                     10
Ser Lys Arg Asp Thr Lys Cys Gln Ser Pro Gly Ser Ser Gly Arg Arg
            20
Arg Gly Pro Arg Pro His Ser Gly Xaa Ala Cys Cys Gly Pro Gly Ser
Gly Gly Gly Thr Trp Gly Val Ser Ser Trp His Cys Ser Val Ser Leu
                                             60
                         55
    50
Pro Lys Cys Ser His Ala Phe Ile Val Asp Phe Leu Tyr Phe Pro Phe
                                                              80
65
Ser Gly Glu Ala Ser Glu Arg Lys Arg Pro Asp Ser Gly Cys Ser Thr
                                     90
                85
Ser Lys Asp Thr Lys Tyr Gln Ser Val Tyr Val Ile Ser Glu Glu Lys
                                 105
                                                     110
            100
Asp Glu Cys Val Ile Ala
        115
<210> 18
<211> 173
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of human delta
<220>
<221> VARIANT
<222> 34, 35, 39, 44, 96
<223> Xaa = Any Amino Acid
<400> 18
Thr Met Asn Asn Leu Ala Asn Cys Gln Arg Glu Lys Asp Ile Ser Val
Ser Ile Ile Gly Ala Thr Ser Asp Gln Glu His Gln Gln Glu Gly Gly
                                 25
            20
Leu Xaa Xaa Gly Gly Pro Xaa Pro Thr Arg Met Xaa Phe Lys Ala Arg
        35
                             40
Tyr Pro Ser Val Asp Tyr Asn Ser Cys Arg Thr Ser Arg Val Thr Thr
Pro Pro Ser Gly Arg Arg Thr Ala Ser Val Thr Pro Ser Ala Ser Pro
65
                    70
                                         75
                                                              80
```

```
Gln Ala Pro Gln Gly Gly Glu Gly Asp Pro Asp His Thr Gln Gly Xaa
Arg Ala Ala Gly Arg Ala Gln Glu Gly Val Pro Gly Gly Cys Leu Pro
                                                     110
            100
                                 105
Gly Thr Thr Ala Pro Phe Leu Phe Pro Asn Val Leu Met His Ser Leu
                             120
                                                 125
        115
Trp Ile Phe Ser Ile Phe Leu Leu Val Glu Lys His Leu Lys Glu Lys
                        135
                                             140
Gly Arg Thr Arg Ala Val Gln Leu Gln Lys Thr Pro Ser Thr Ser Arg
                                         155
                                                              160
                    150
145
Cys Thr Ser Tyr Pro Arg Arg Arg Thr Ser Ala Ser Ser
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                                     170
<210> 19
<211> 60
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of human delta
<220>
<221> VARIANT
<222> 1, 19, 23, 32, 33, 36, 43
<223> Xaa = Any Amino Acid
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Xaa Thr Trp Arg Thr Ala Ser Val Arg Arg Thr Ser Gln Ser Ala Ser
Ser Gly Xaa Arg Gln Ile Xaa Asn Thr Asn Lys Lys Ala Asp Phe Xaa
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Xaa Gly Asp Xaa Ser Val Arg Gln Glu Trp Xaa Ser Arg Pro Ala Thr
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        35
Pro Ala Trp Thr Ile Thr Arg Ala Gly Pro Gln Gly
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                                             60
    50
<210> 20
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of human delta
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Arg His Arg Arg Gln Asp Val Ala Gln Gln Ala
<210> 21
<211> 61
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of human delta
<400> 21
His Gln Val Pro Val Pro Arg Leu Leu Arg Glu Glu Lys Gly Thr Pro
```

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10
                                                         15
Thr Thr Leu Arg Gly Cys Val Leu Arg Ala Gly Leu Arg Arg Gly Tyr
                                 25
            20
Leu Gly Gly Val Phe Leu Glu Pro Leu Leu Arg Phe Ser Ser Gln Met
                             40
                                                 45
        35
Phe Ser Cys Ile His Cys Gly Phe Ser Leu Phe Ser Phe
    50
                         55
<210> 22
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of human delta
<400> 22
Lys Lys Lys Ala Gly Leu Gly Leu Phe Asn Phe Lys Lys Arg His Gln
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                                     10
Val Pro Val Gly Val Arg His Ile Arg Gly Glu Gly Arg Val Arg His
                                                     30
                                 25
            20
Arg
<210> 23
<211> 175
<212> PRT
<213> Artificial Sequence
<220>
<223> Predicted amino acid sequence of human delta
<220>
<221> VARIANT
<222> 25, 34, 35, 38, 97
<223> Xaa = Any Amino Acid
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Ser Ile Ile Gly Ala Thr Gly Ile Xaa Asn Thr Asn Lys Lys Ala Asp
                                 25
            20
Phe Xaa Xaa Gly Asp Xaa Ser Ser Asp Lys Asn Gly Phe Gln Lys Ala
        35
Arg Tyr Pro Ser Val Asp Tyr Asn Leu Val Gln Asp Leu Lys Gly Asp
Asp Thr Ala Val Arg Thr Ser His Ser Lys Arg Asp Thr Lys Cys Gln
                                                              80
                                         75
                    70
Ser Pro Gly Ser Ser Gly Arg Arg Gly Pro Arg Pro His Ser Gly
                                     90
                                                         95
                85
Xaa Ala Cys Cys Gly Pro Gly Ser Gly Gly Gly Thr Trp Gly Val Ser
                                 105
Ser Trp Asn His Cys Ser Val Ser Leu Pro Lys Cys Ser His Ala Phe
        115
                            120
                                                 125
Ile Val Asp Phe Leu Tyr Phe Pro Phe Ser Gly Glu Ala Ser Glu Arg
                                             140
    130
                        135
Lys Arg Pro Asp Ser Gly Cys Ser Thr Ser Lys Asp Thr Lys Tyr Gln
                    150
```

Ser Val Tyr Val Ile Ser Glu Glu Lys Asp Glu Cys Val Ile Ala

165 170 175

<210> 24

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<211> 2899
<212> DNA
<213> Artificial Sequence
<220>
<223> Consenses sequence of mouse delta and human delta
<220>
<221> misc feature
<222> 854, 973, 984, 1582, 1787, 1819, 1864, 1916, 1951, 2033,
2152, 2156, 2171, 2183, 2194, 2212, 2220, 2226, 2230, 2244,
2245, 2264, 2265, 2266, 2287
<223> n = A, T, C \text{ or } G
<400> 24
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gtgccaggtc tggagctccg gcgtatttga gctgaagctg caggagttcg tcaacaagaa 120
ggggctgctg gggaaccgca actgctgccg cgggggctct ggcccgcctt gcgcctgcag 180
gaccttcttt cgcgtatgcc tcaaccacta ccaggccagc gtgtcaccgg agccaccctg 240
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sgyasgsryc smccycgagg yckwcrgyaw csmyaagyyy gatatcgmmy tycggcttca 360
cctggccrgg yaccttctct ctgatyattg aagcyctcca yacagaytct ccygatgacc 420
tcgcaacaga aaacccagaa agactcatca gccgcctgrc cacycagagg cacctsackg 480
tgggmgarga rtggtcycag gacctkcaca gyagcggccg cacrgacctc mrgtactcyt 540
accesttygt gtgtgacgar cactactacg gagarggytg ctctgtkttc tgccgwccyc 600
gggaygaygc cttyggccac ttcacctgyg gggasmgwgg ggagaarrtg tgcraccctg 660
gctggaaagg scmgtactgc acwgasccra tctgyctgcc wggrtgtgat gascarcatg 720
gatwytgtga caaaccaggg gartgcaagt gcagagtkgg ctggcagggc cgstactgyg 780
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araccatgaa caacctrgnc aaytgccagc gygagaagga crtytcwgty agcatcatyg 1860
gggnyacsca catcaagaac accaacaaga aggcggactt ycacggggac cayrgngccr 1920
asaagaryrg cttyaaggyc cgmtacccmr nkgtggacta taacctcgtk crrgacctca 1980
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magtcggtgt nygtymtktc ygnagragga aggntgastg ygtyataggm rnytgaggtn 2220
gtaarntggn agcgatgtgg caannttccc atttctcksa aaknnnattc cmmggatata 2280
gcyccgntga atgctkctga gagaggaagg gagaggaaac ccagggactg ytkytcagaa 2340
ccaggttcag gcgaagctgg ttctctcaga gttagcagag gcgcccgaca ctgccagcct 2400
aggetttgge tgeegetgga etgeetgetg gttgtteeca ttgeactatg gaeagttget 2460
ttgaagagta tatatttaaa tggacgagtg acttgattca tatacgaagc acgcactgcc 2520
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cacacqtcta tcttggatta ctatgagcca gtctttcctt gaactagaaa cacaactgcc 2580
tttattgtcc tttttgatac tgagatgtgt ttttttttt cctagacggg aaaaagaaaa 2640
cgtgtgttat ttttttggga tttgtaaaaa tatttttcat gatatctgta aagcttgagt 2700
attttgtgac gttcattttt ttataattta aattttggta aatatgtaca aaggcacttc 2760
gggtctatgt gactatattt ttttgtatat aaatgtattt atggaatatt gtgcaaatgt 2820
tatttgagtt ttttactgtt ttgttaatga agaaattcat tttaaaaata tttttccaaa 2880
                                                                   2899
ataaatataa tgaactaca
<210> 25
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> sequence encoded by SEQ ID NO. 93 (degenerated
      oligo)
<400> 25
Glu Lys Asp Glu Cys Val Ile Ala
<210> 26
<211> 1981
<212> DNA
<213> Homo sapiens
<220>
<221> misc feature
<222> 559, 678, 689, 1287, 1492, 1524, 1569, 1621, 1656, 1738,
1857, 1861, 1876, 1888, 1899, 1917, 1925, 1931, 1935, 1942,
1943, 1952, 1953, 1954, 1968
<223> n = A, T, C \text{ or } G
<400> 26
cattgggtac gggcccccct cgaggtcgac ggtatcgata agcttgatat cgaattccgg 60
cttcacctgg ccgggcacct tctctctgat tattgaagct ctccacacag attctcctga 120
tgacctcgca acagaaaacc cagaaagact catcagccgc ctggccaccc agaggcacct 180
gacggtgggc gaggagtggt cccaggacct gcacagcagc ggccgcacgg acctcaagta 240
ctcctaccgc ttcgtgtgtg acgaacacta ctacggagag ggctgctccg ttttctgccg 300
teceegggae gatgeetteg geeactteae etgtggggag egtggggaga aagtgtgeaa 360
ccctggctgg aaagggccct actgcacaga gccgatctgc ctgcctggat gtgatgagca 420
gcatggattt tgtgacaaac caggggaatg caagtgcaga gtgggctggc agggccggta 480
ctgtgacgag tgtatccgct atccaggctg tctccatggc acctgccagc agccctggca 540
gtgcaactgc caggaaggnt gggggggcct tttctgcaac caggacctga actactgcac 600
acaccataag ccctgcaaga atggagccac ctgcaacaaa cacgggccag ggggagctac 660
acttggtctt tggccggnct ggggtacana gggtgccacc tgcgaagctt ggggattgga 720
cgagttgttg accccagccc ttggtaagaa cggagggagc ttgacggatc ttcggagaac 780
agctactcct gtacctgccc acccggcttc tacggcaaaa tctgtgaatt gagtgccatg 840
acctgtgcgg acggcccttg ctttaacggg ggtcggtgct cagacagccc cgatggaggg 900
tacagetgee getgeeegt gggetaetee ggetteaact gtgagaagaa aattgaetae 960
tgcagctctt caccctgttc taatggtgcc aagtgtgtgg acctcggtga tgcctacctg 1020
tgccgctgcc aggccggctt ctcggggagg cactgtgacg acaacgtgga cgactgcgcc 1080
tecteceegt gegeeaacgg gggeaectge egggatggeg tgaacgaett etectgeaec 1140
tgcccgcctg gctacacggg caggaactgc agtgcccccg ccagcaggtg cgagcacgca 1200
ccctgccaca atggggccac ctgccacgag aggggccacc gctatttgtg cgagtgtgcc 1260
cgaagctacg ggggtcccaa ctgccanttc ctgctccccg aaactgcccc cccggcccca 1320
cggtggtgga aactccccta aaaaaccta aaagggccgg ggggggccca tccccttggt 1380
ggacgtgtgc gccggggtca tccttgtcct catgctgctg ctgggctgtg ccgctgtggt 1440
ggtctgcgtc cggctgaggc tgcagaagca ccggccccca gccgacccct gncgggggga 1500
gacggagacc atgaacaacc tggncaactg ccagcgtgag aaggacatct cagtcagcat 1560
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```
catcggggnc acgcagatca agaacaccaa caagaaggcg gacttccacg gggaccacag 1620
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cctcaagggt gacgacaccg ccgtcaggga cgcgcacagc aagcgtgaca ccaagtgnca 1740
gccccagggc tcctcagggg aggagaaggg gacccccgac ccacactcag ggggtggagg 1800
aagcatcttg aaagaaaaag gccggacttc gggcttgttc aactttcaaa agacaancaa 1860
ngtacaagtc ggtgtncgtc atttccgnag gaggaaggnt gactgcgtca taggaanttg 1920
aggtngtaaa ntggnagttg annttggaaa gnnntccccg gattccgntt tcaaagtttt 1980
                                                                   1981
<210> 27
<211> 31
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 27
His Trp Val Arg Ala Pro Leu Glu Val Asp Gly Ile Asp Lys Leu Asp
                                                         15
 1
                                     10
Ile Glu Phe Arg Leu His Leu Ala Gly His Leu Leu Ser Asp Tyr
                                 25
                                                     30
            20
<210> 28
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 28
Ser Ser Pro His Arg Phe Ser
 1
<210> 29
<211> 45
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 29
Pro Arg Asn Arg Lys Pro Arg Lys Thr His Gln Pro Pro Gly His Pro
                                                         15
                                    10
1
Glu Ala Pro Asp Gly Gly Arg Gly Val Val Pro Gly Pro Ala Gln Gln
                                25
Arg Pro His Gly Pro Gln Val Leu Leu Pro Leu Arg Val
                                                 45
                            40
        35
<210> 30
<211> 49
<212> PRT
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<213> Artificial Sequence

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<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 30
Arg Thr Leu Leu Arg Arg Gly Leu Leu Arg Phe Pro Ser Pro Gly Arg
Cys Leu Arg Pro Leu His Leu Trp Gly Ala Trp Gly Glu Ser Val Gln
                                 25
                                                     30
            20
Pro Trp Leu Glu Arg Ala Leu Leu His Arg Ala Asp Leu Pro Ala Trp
        35
                             40
                                                 45
Met
<210> 31
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 31
Ala Ala Trp Ile Leu
 1
<210> 32
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 32
Gln Thr Arg Gly Met Gln Val Gln Ser Gly Leu Ala Gly Pro Val Leu
                                     10
<210> 33
<211> 40
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 25
<223> Xaa = Any Amino Acid
<400> 33
Arg Val Tyr Pro Leu Ser Arg Leu Ser Pro Trp His Leu Pro Ala Ala
```

```
Gly Pro Glu Leu Leu His Thr Pro
                            40
        35
<210> 34
<211> 45
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 27
<223> Xaa = Any Amino Acid
<400> 34
Ala Leu Gln Glu Trp Ser His Leu Gln Gln Thr Arg Ala Arg Gly Ser
                                     10
 1
                 5
Tyr Thr Trp Ser Leu Ala Gly Leu Gly Tyr Xaa Gly Cys His Leu Arg
                                 25
Ser Leu Gly Ile Gly Arg Val Val Asp Pro Ser Pro Trp
                                                 45
                             40
        35
<210> 35
<211> 196
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 166, 179
<223> Xaa = Any Amino Acid
<400> 35
Glu Arg Arg Glu Leu Asp Gly Ser Ser Glu Asn Ser Tyr Ser Cys Thr
Cys Pro Pro Gly Phe Tyr Gly Lys Ile Cys Glu Leu Ser Ala Met Thr
Cys Ala Asp Gly Pro Cys Phe Asn Gly Gly Arg Cys Ser Asp Pro Asp
                             40
                                                 45
Gly Gly Tyr Ser Cys Arg Cys Pro Val Gly Tyr Ser Gly Phe Asn Cys
                                             60
                         55
    50
Glu Lys Lys Ile Asp Tyr Cys Ser Ser Ser Pro Cys Ser Asn Gly Ala
Lys Cys Val Asp Leu Gly Asp Ala Tyr Leu Cys Arg Gly Gln Ala Gly
Phe Ser Gly Arg His Cys Asp Asp Asn Val Asp Asp Cys Ala Ser Ser
                                 105
                                                     110
            100
Pro Cys Ala Asn Gly Gly Thr Cys Arg Asp Gly Val Asn Asp Phe Ser
Cys Thr Cys Pro Pro Gly Tyr Thr Gly Arg Asn Cys Ser Ala Pro Ala
```

Leu Ala Val Gln Leu Pro Gly Arg Xaa Gly Gly Pro Phe Leu Gln Pro

```
135
                                             140
    130
Ser Arg Cys Glu His Ala Pro Cys His Asn Gly Ala Thr Cys His Glu
                                                              160
                                         155
145
                    150
Arg Gly His Arg Tyr Xaa Cys Glu Cys Ala Arg Ser Tyr Gly Gly Pro
                                                          175
                                     170
                165
Asn Cys Xaa Phe Leu Leu Pro Glu Thr Ala Pro Pro Ala Pro Arg Trp
                                                     190
            180
                                 185
Trp Lys Leu Pro
        195
<210> 36
<211> 65
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 51
<223> Xaa = Any Amino Acid
<400> 36
Lys Asn Leu Lys Gly Pro Gly Gly Ala His Pro Leu Gly Gly Arg Val
                                                          15
                 5
                                     10
1
Arg Arg Gly His Pro Cys Pro His Ala Ala Ala Gly Leu Cys Arg Cys
                                 25
Gly Gly Leu Arg Pro Ala Glu Ala Ala Glu Ala Pro Ala Pro Ser Arg
                             40
        35
Pro Leu Xaa Gly Gly Asp Gly Asp His Glu Gln Pro Gly Gln Leu Pro
    50
                                             60
                         55
Ala
65
<210> 37
<211> 42
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 28, 39
<223> Xaa = Any Amino Acid
<400> 37
Glu Gly His Leu Ser Gln His His Arg Gly His Ala Asp Gln Glu His
Gln Gln Glu Gly Gly Leu Pro Arg Gly Pro Gln Xaa Arg Gln Glu Trp
                                                     30
                                 25
            20
Leu Gln Gly Pro Leu Pro Xaa Gly Gly Leu
```

```
<210> 38
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 38
Pro Arg Ala Gly Pro Gln Gly
 1
                 5
<210> 39
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 39
Arg His Arg Arg Gln Gly Arg Ala Gln Gln Ala
                                     10
<210> 40
<211> 57
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 4, 43, 45, 50, 54
<223> Xaa = Any Amino Acid
<400> 40
His Gln Val Xaa Ala Pro Gly Leu Leu Arg Gly Gly Glu Gly Asp Pro
                                                         15
 1
Arg Pro Thr Leu Arg Gly Trp Arg Lys His Leu Glu Arg Lys Arg Pro
            20
                                 25
Asp Phe Gly Leu Val Gln Leu Ser Lys Asp Xaa Gln Xaa Thr Ser Arg
Cys Xaa Ser Phe Pro Xaa Glu Glu Gly
    50
                        55
<210> 41
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
```

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<220>
<221> VARIANT
<222> 5, 8
<223> Xaa = Any Amino Acid
<400> 41
Leu Arg His Arg Xaa Leu Arg Xaa
 1
<210> 42
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 1, 4, 5
<223> Xaa = Any Amino Acid
<400> 42
Xaa Trp Lys Xaa Xaa Pro Gly Phe Arg Phe Gln Ser Phe
 1
                                     10
<210> 43
<211> 276
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 226, 230
<223> Xaa = Any Amino Acid
<400> 43
Ile Gly Tyr Gly Pro Pro Ser Arg Ser Thr Val Ser Ile Ser Leu Ile
                                     10
Ser Asn Ser Gly Phe Thr Trp Pro Gly Thr Phe Ser Leu Ile Ile Glu
                                 25
Ala Leu His Thr Asp Ser Pro Asp Asp Leu Ala Thr Glu Asn Pro Glu
        35
Arg Leu Ile Ser Arg Leu Ala Thr Gln Arg His Leu Thr Val Gly Glu
    50
                        55
                                             60
Glu Trp Ser Gln Asp Leu His Ser Ser Gly Arg Thr Asp Leu Lys Tyr
65
                                         75
                                                              80
                    70
Ser Tyr Arg Phe Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser
                85
                                     90
                                                         95
Val Phe Cys Arg Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly
                                 105
                                                     110
            100
Glu Arg Gly Glu Lys Val Cys Asn Pro Gly Trp Lys Gly Pro Tyr Cys
                                                 125
                             120
```

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Thr Glu Pro Ile Cys Leu Pro Gly Cys Asp Glu Gln His Gly Phe Cys
Asp Lys Pro Gly Glu Cys Lys Cys Arg Val Gly Trp Gln Gly Arg Tyr
                    150
                                         155
                                                              160
145
Cys Asp Glu Cys Ile Arg Tyr Pro Gly Cys Leu His Gly Thr Cys Gln
                165
                                                          175
                                     170
Gln Pro Trp Gln Cys Asn Cys Gln Glu Gly Trp Gly Gly Leu Phe Cys
                                 185
Asn Gln Asp Leu Asn Tyr Cys Thr His His Lys Pro Cys Lys Asn Gly
                             200
                                                 205
        195
Ala Thr Cys Asn Lys His Gly Pro Gly Gly Ala Thr Leu Gly Leu Trp
                                             220
    210
                         215
Pro Xaa Trp Gly Thr Xaa Gly Ala Thr Cys Glu Ala Trp Gly Leu Asp
                                         235
225
                    230
Glu Leu Leu Thr Pro Ala Leu Gly Lys Asn Gly Gly Ser Leu Thr Asp
                                                          255
                245
                                     250
Leu Arg Arg Thr Ala Thr Pro Val Pro Ala His Pro Ala Ser Thr Ala
                                 265
                                                     270
            260
Lys Ser Val Asn
        275
<210> 44
<211> 93
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 44
Pro Val Arg Thr Ala Leu Ala Leu Thr Gly Val Gly Ala Gln Thr Ala
                                     10
                                                         15
 1
Pro Met Glu Gly Thr Ala Ala Ala Pro Trp Ala Thr Pro Ala Ser
                                 25
Thr Val Arg Arg Lys Leu Thr Thr Ala Ala Leu His Pro Val Leu Met
                                                 45
        35
Val Pro Ser Val Trp Thr Ser Val Met Pro Thr Cys Ala Ala Ala Arg
    50
                         55
                                             60
Pro Ala Ser Arg Gly Gly Thr Val Thr Thr Thr Trp Thr Thr Ala Pro
                                         75
65
                    70
Pro Pro Arg Ala Pro Thr Gly Ala Pro Ala Gly Met Ala
                                     90
<210> 45
<211> 74
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 55
<223> Xaa = Any Amino Acid
<400> 45
```

```
Thr Thr Ser Pro Ala Pro Ala Arg Leu Ala Thr Arg Ala Gly Thr Ala
Val Pro Pro Pro Ala Gly Ala Ser Thr His Pro Ala Thr Met Gly Pro
            20
                                 25
Pro Ala Thr Arg Gly Ala Thr Ala Ile Cys Ala Ser Val Pro Glu Ala
                                                 45
        35
                            40
Thr Gly Val Pro Thr Ala Xaa Ser Cys Pro Lys Leu Pro Pro Arg Pro
                                             60
His Gly Gly Gly Asn Ser Pro Lys Lys Thr
65
<210> 46
<211> 187
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 47, 58, 73, 101, 128, 167, 168, 181, 187
<223> Xaa = Any Amino Acid
<400> 46
Lys Gly Arg Gly Gly Pro Ile Pro Leu Val Asp Val Cys Ala Gly Val
Ile Leu Val Leu Met Leu Leu Gly Cys Ala Ala Val Val Cys
                                 25
Val Arg Leu Arg Leu Gln Lys His Arg Pro Pro Ala Asp Pro Xaa Arg
        35
                            40
                                                 45
Gly Glu Thr Glu Thr Met Asn Asn Leu Xaa Asn Cys Gln Arg Glu Lys
Asp Ile Ser Val Ser Ile Ile Gly Xaa Thr Gln Ile Lys Asn Thr Asn
                                                             80
65
                    70
Lys Lys Ala Asp Phe His Gly Asp His Ala Asp Lys Asn Gly Phe Lys
                                     90
                                                         95
                85
Ala Arg Tyr Pro Xaa Val Asp Tyr Asn Leu Val Gln Asp Leu Lys Gly
                                105
                                                     110
            100
Asp Asp Thr Ala Val Arg Asp Ala His Ser Lys Arg Asp Thr Lys Xaa
                            120
Gln Pro Gln Gly Ser Ser Gly Glu Glu Gly Thr Pro Asp Pro His Ser
                        135
                                             140
    130
Gly Gly Gly Ser Ile Leu Lys Glu Lys Gly Arg Thr Ser Gly Leu
                    150
                                         155
                                                             160
145
Phe Asn Phe Gln Lys Thr Xaa Xaa Val Gln Val Gly Val Arg His Phe
                165
                                     170
Arg Arg Arg Lys Xaa Asp Cys Val Ile Gly Xaa
            180
                                185
<210> 47
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
```

possible ORF of human Delta contigs

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<220>
<221> VARIANT
<222> 2, 4, 5, 7, 8, 11, 16
<223> Xaa = Any Amino Acid
<400> 47
Gly Xaa Lys Xaa Xaa Val Xaa Xaa Gly Lys Xaa Ser Pro Asp Ser Xaa
                                                         15
                                     10
Phe Lys Val Phe
            20
<210> 48
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 48
Leu Gly Thr Gly Pro Pro Arg Gly Arg Arg Tyr Arg
                                     10
<210> 49
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 49
Tyr Arg Ile Pro Ala Ser Pro Gly Arg Ala Pro Ser Leu
 1
                                     10
                 5
<210> 50
<211> 30
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 50
Leu Leu Lys Leu Ser Thr Gln Ile Leu Leu Met Thr Ser Gln Gln Lys
                                     10
                                                         15
Thr Gln Lys Asp Ser Ser Ala Ala Trp Pro Pro Arg Gly Thr
                                                     30
                                 25
            20
<210> 51
<211> 135
<212> PRT
<213> Artificial Sequence
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<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 126
<223> Xaa = Any Amino Acid
<400> 51
Arg Trp Ala Arg Ser Gly Pro Arg Thr Cys Thr Ala Ala Ala Ala Arg
Thr Ser Ser Thr Pro Thr Ala Ser Cys Val Thr Asn Thr Thr Glu
            20
                                                     30
                                 25
Arg Ala Ala Pro Phe Ser Ala Val Pro Gly Thr Met Pro Ser Ala Thr
                             40
                                                 45
        35
Ser Pro Val Cys Ser Val Gly Arg Lys Cys Ala Thr Leu Ala Gly Lys
Gly Pro Thr Ala Gln Ser Arg Ser Ala Cys Leu Asp Val Met Ser Ser
                                         75
                                                             80
65
                    70
Met Asp Phe Phe Val Thr Asn Gln Asn Ala Ser Ala Glu Trp Ala Gly
                85
                                     90
Arg Ala Gly Thr Val Thr Ser Val Ser Ala Ile Gln Ala Val Ser Met
                                                     110
            100
                                 105
Ala Pro Ala Ser Ser Pro Gly Ser Ala Thr Ala Arg Lys Xaa Gly Gly
                                                 125
        115
                             120
Ala Phe Ser Ala Thr Arg Thr
                        135
    130
<210> 52
<211> 46
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 30, 33
<223> Xaa = Any Amino Acid
<400> 52
Thr Thr Ala His Thr Ile Ser Pro Ala Arg Met Glu Pro Pro Ala Thr
                                     10
Asn Thr Gly Gln Gly Glu Leu His Leu Val Phe Gly Arg Xaa Gly Val
            20
                                 25
                                                     30
Xaa Arg Val Pro Pro Ala Lys Leu Gly Asp Trp Thr Ser Cys
                                                 45
        35
                            40
<210> 53
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
```

<223> Deduced amino acid sequence using the three

```
possible ORF of human Delta contigs
<400> 53
Pro Gln Pro Leu Val Arg Thr Glu Gln Glu
                 5
                                     10
 1
<210> 54
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 54
Arg Ile Phe Gly Glu Gln Leu Leu Leu Tyr Leu Pro Thr Arg Leu Leu
                                     10
Arg Gln Asn Leu
            20
<210> 55
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 55
Ile Glu Cys His Asp Leu Cys Gly Arg Pro Leu Leu
                                     10
 1
<210> 56
<211> 25
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 56
Arg Gly Ser Val Leu Arg Gln Pro Arg Trp Arg Val Gln Leu Pro Leu
Pro Arg Gly Leu Leu Arg Leu Gln Leu
                                 25
            20
<210> 57
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
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<400> 57
Leu Leu Gln Leu Phe Thr Leu Phe
 1
                 5
<210> 58
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 58
Trp Cys Gln Val Cys Gly Pro Arg
<210> 59
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<400> 59
Cys Leu Pro Val Pro Leu Pro Gly Arg Leu Leu Gly Glu Ala Leu
                                                         15
                                     10
 1
                 5
<210> 60
<211> 131
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 76
<223> Xaa = Any Amino Acid
<400> 60
Arg Gln Arg Gly Arg Leu Arg Leu Pro Val Arg Gln Gly His Leu
                                                         15
1
Pro Gly Trp Arg Glu Arg Leu Leu Leu His Leu Pro Ala Trp Leu His
                                 25
            20
                                                     30
Gly Gln Glu Leu Gln Cys Pro Arg Gln Gln Val Arg Ala Arg Thr Leu
Pro Gln Trp Gly His Leu Pro Arg Glu Gly Pro Pro Leu Phe Val Arg
    50
Val Cys Pro Lys Leu Arg Gly Ser Gln Leu Pro Xaa Pro Ala Pro Arg
65
                                         75
Asn Cys Pro Pro Gly Pro Thr Val Val Glu Thr Pro Leu Lys Lys Pro
                                     90
                85
```

```
Lys Arg Ala Gly Gly Gly Pro Ser Pro Trp Trp Thr Cys Ala Pro Gly
Ser Ser Leu Ser Ser Cys Cys Cys Trp Ala Val Pro Leu Trp Trp Ser
        115
                            120
                                                 125
Ala Ser Gly
    130
<210> 61
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 12
<223> Xaa = Any Amino Acid
<400> 61
Gly Cys Arg Ser Thr Gly Pro Gln Pro Thr Pro Xaa Gly Gly Arg Arg
                                     10
                                                         15
Arg Pro
<210> 62
<211> 98
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 4, 19, 36, 48, 75
<223> Xaa = Any Amino Acid
<400> 62
Thr Thr Trp Xaa Thr Ala Ser Val Arg Arg Thr Ser Gln Ser Ala Ser
Ser Gly Xaa Arg Arg Ser Arg Thr Pro Thr Arg Arg Arg Thr Ser Thr
Gly Thr Thr Xaa Pro Thr Arg Met Ala Ser Arg Pro Ala Thr Gln Xaa
        35
                                                 45
Trp Thr Ile Thr Ser Cys Arg Thr Ser Arg Val Thr Thr Pro Pro Ser
    50
                                             60
Gly Thr Arg Thr Ala Ser Val Thr Pro Ser Xaa Ser Pro Arg Ala Pro
65
                                         75
Gln Gly Arg Arg Cys Pro Pro Thr His Thr Gln Gly Val Glu Glu
                                     90
                                                         95
Ala Ser
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<210> 63

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<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 16, 17, 22, 26, 30
<223> Xaa = Any Amino Acid
<400> 63
Lys Lys Lys Ala Gly Leu Arg Ala Cys Ser Thr Phe Lys Arg Gln Xaa
                                                          15
                                     10
1
Xaa Tyr Lys Ser Val Xaa Val Ile Ser Xaa Gly Gly Arg Xaa Thr Ala
                                 25
                                                      30
            20
Ser
<210> 64
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Deduced amino acid sequence using the three
      possible ORF of human Delta contigs
<220>
<221> VARIANT
<222> 2, 6, 8, 10, 13, 14, 19
<223> Xaa = Any Amino Acid
<400> 64
Glu Xaa Glu Val Val Xaa Trp Xaa Leu Xaa Leu Glu Xaa Xaa Pro Arg
                                                          15
                 5
                                     10
 1
Ile Pro Xaa Ser Lys Phe
            20
<210> 65
<211> 192
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 65
Gly Phe Thr Trp Pro Gly Thr Phe Ser Leu Ile Ile Glu Ala Leu His
                                     10
Thr Asp Ser Pro Asp Asp Leu Ala Thr Glu Asn Pro Glu Arg Leu Ile
            20
                                                      30
Ser Arg Leu Ala Thr Gln Arg His Leu Thr Val Gly Glu Glu Trp Ser
                             40
        35
Gln Asp Leu His Ser Ser Gly Arg Thr Asp Leu Lys Tyr Ser Tyr Arg
    50
                        55
```

```
65
Arg Pro Arg Asp Asp Ala Phe Gly His Phe Thr Cys Gly Glu Arg Gly
                85
Glu Lys Val Cys Asn Pro Gly Trp Lys Gly Pro Tyr Cys Thr Glu Pro
                                                     110
            100
                                 105
Ile Cys Leu Pro Gly Cys Asp Glu Gln His Gly Phe Cys Asp Lys Pro
                             120
Gly Glu Cys Lys Cys Arg Val Gly Trp Gln Gly Arg Tyr Cys Asp Glu
                        135
                                             140
    130
Cys Ile Arg Tyr Pro Gly Cys Leu His Gly Thr Cys Gln Gln Pro Trp
                                         155
                                                              160
145
                    150
Gln Cys Asn Cys Gln Glu Gly Trp Gly Gly Leu Phe Cys Asn Gln Asp
                                     170
                165
Leu Asn Tyr Cys Thr His His Lys Pro Cys Lys Asn Gly Ala Thr Cys
            180
                                 185
                                                     190
<210> 66
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 66
Thr Asn Thr Gly Gln Gly
 1
<210> 67
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 67
Lys Asn Gly Gly Ser Leu Thr Asp Leu
<210> 68
<211> 157
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 68
Glu Asn Ser Tyr Ser Cys Thr Cys Pro Pro Gly Phe Tyr Gly Lys Ile
                                                         15
 1
                                     10
Cys Glu Leu Ser Ala Met Thr Cys Ala Asp Gly Pro Cys Phe Asn Gly
Gly Arg Cys Ser Asp Ser Pro Asp Gly Gly Tyr Ser Cys Arg Cys Pro
```

Phe Val Cys Asp Glu His Tyr Tyr Gly Glu Gly Cys Ser Val Phe Cys

```
35
                             40
                                                  45
Val Gly Tyr Ser Gly Phe Asn Cys Glu Lys Lys Ile Asp Tyr Cys Ser
                         55
Ser Ser Pro Cys Ser Asn Gly Ala Lys Cys Val Asp Leu Gly Asp Ala
                                         75
                                                              80
                    70
65
Tyr Leu Cys Arg Cys Gln Ala Gly Phe Ser Gly Arg His Cys Asp Asp
Asn Val Asp Asp Cys Ala Ser Ser Pro Cys Ala Asn Gly Gly Thr Cys
                                 105
                                                      110
            100
Arg Asp Gly Val Asn Asp Phe Ser Cys Thr Cys Pro Pro Gly Tyr Thr
        115
                                                  125
                             120
Gly Arg Asn Cys Ser Ala Pro Ala Ser Arg Cys Glu His Ala Pro Cys
                         135
                                             140
His Asn Gly Ala Thr Cys His Glu Arg Gly His Arg Tyr
145
                                         155
                    150
<210> 69
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 69
Cys Glu Cys Ala Arg Ser Tyr Gly Gly Pro Asn Cys
                                     10
 1
                 5
<210> 70
<211> 5
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 70
Phe Leu Leu Pro Glu
<210> 71
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 71
Pro Pro Gly Pro
 1
<210> 72
<211> 25
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<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 72
Leu Leu Gly Cys Ala Ala Val Val Cys Val Arg Leu Arg Leu
                                                         15
                                     10
 1
Gln Lys His Arg Pro Pro Ala Asp Pro
                                 25
            20
<210> 73
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 73
Arg Gly Glu Thr Glu Thr Met Asn Asn Leu
                                     10
<210> 74
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 74
Asn Cys Gln Arg Glu Lys Asp Ile Ser Val Ser Ile Ile Gly
                                    10
 1
<210> 75
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 75
Thr Gln Ile Lys Asn Thr Asn Lys Lys Ala Asp Phe His Gly Asp His
                                    10
<210> 76
<211> 11
<212> PRT
<213> Artificial Sequence
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<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 76
Ala Asp Lys Asn Gly Phe Lys Ala Arg Tyr Pro
                                     10
<210> 77
<211> 26
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 77
Val Asp Tyr Asn Leu Val Gln Asp Leu Lys Gly Asp Asp Thr Ala Val
 1
                                     10
                                                         15
Arg Asp Ala His Ser Lys Arg Asp Thr Lys
                                 25
            20
<210> 78
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 78
Gln Pro Gln Gly Ser Ser Gly Glu Glu Lys Gly Thr Pro
                                     10
 1
<210> 79
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
<400> 79
Pro Thr Leu Arg
 1
<210> 80
<211> 4
<212> PRT
<213> Artificial Sequence
<220>
<223> Composite human delta (H-Delta-1) amino acid
      sequence
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<400> 80
Arg Lys Arg Pro
 1
<210> 81
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Degenerated oligo as primer
<220>
<221> VARIANT
<222> 6, 12, 18, 21
\langle 223 \rangle n = I (Inosine)
<400> 81
                                                                       23
ttcggnttya cntggccngg nac
<210> 82
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Degenerated oligo as primer
<220>
<221> VARIANT
<222> 3, 9, 12, 15
\langle 223 \rangle n = I (Inosine)
<400> 82
tenatgeang tncencertt
                                                                       20
<210> 83
<211> 8
<212> PRT
<213> Drosophila
<400> 83
Phe Gly Phe Thr Trp Pro Gly Thr
 1
<210> 84
<211> 7
<212> PRT
<213> Drosophila
<400> 84
Asn Gly Gly Thr Cys Ile Asp
 1
<210> 85
<211> 12
<212> PRT
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<213> Drosophila
<400> 85
Ser Ile Pro Pro Gly Ser Arg Thr Ser Leu Gly Val
                  5
                                       10
 1
<210> 86
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Primer 1 for PCR
<220>
<221> VARIANT
<222> 3, 9, 15, 18, 21
\langle 223 \rangle n = I (Inosine)
<400> 86
                                                                       23
ggnttcacnt ggccnggnac ntt
<210> 87
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Primer 2 for PCR
<220>
<221> VARIANT
<222> 3, 6, 18
\langle 223 \rangle n = I (Inosine)
<400> 87
gtnccnccrt tyttrcangg rtt
                                                                       23
<210> 88
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> EGF-like repeats encoded by SEQ ID NO. 87
<400> 88
Asn Pro Cys Lys Asn Gly Gly Thr
<210> 89
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> degenerated oligo primer
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<220>

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<221> VARIANT
<222> 3, 15, 18
\langle 223 \rangle n = I (Inosine)
<400> 89
                                                                        23
acnatgaaya ayctngcnaa ytg
<210> 90
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> amino acid encoded by SEQ ID NO. 89
<400> 90
Thr Met Asn Asn Leu Ala Asn Cys
 1
                  5
<210> 91
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> degenerated oligo primer
<220>
<221> VARIANT
<222> 6, 9, 21
\langle 223 \rangle n = I (Inosine)
<400> 91
                                                                        23
acrtanacng aytgrtaytt ngt
<210> 92
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> amino acid sequence encoded by SEQ ID NO. 91
<400> 92
Thr Lys Tyr Gln Ser Val Tyr Val
<210> 93
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> degenerated oligo
<220>
<221> VARIANT
<222> 6
\langle 223 \rangle n = I (Inosine)
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<400> 93
                                                                    23
gcdatnacrc aytcrtcytt ytc
<210> 94
<211> 8
<212> PRT
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<220>
<223> amino acid sequence endoced by SEQ ID NO. 86
<400> 94
Gly Phe Thr Trp Pro Gly Thr Phe
 1
<210> 95
<211> 129
<212> PRT
<213> Gallus gallus
<220>
<223> chicken C-Delta-1
<400> 95
Thr Met Asn Asn Leu Ala Asn Cys Gln Arg Glu Lys Asp Ile Ser Ile
                                                          15
 1
Ser Val Ile Gly Ala Thr Gln Ile Lys Asn Thr Asn Lys Lys Val Asp
Phe His Ser Asp Asn Ser Asp Lys Asn Gly Tyr Lys Val Arg Tyr Pro
                             40
                                                 45
Ser Val Asp Tyr Asn Leu Val His Glu Leu Lys Asn Glu Asp Ser Val
    50
                         55
                                             60
Lys Glu Glu His Gly Lys Cys Glu Ala Lys Cys Glu Thr Tyr Asp Ser
                                                              80
Glu Ala Glu Glu Lys Ser Ala Val Gln Leu Lys Ser Ser Asp Thr Ser
                85
Glu Arg Lys Arg Pro Asp Ser Val Tyr Ser Thr Ser Lys Asp Thr Lys
                                 105
                                                     110
            100
Tyr Gln Ser Val Tyr Val Ile Ser Glu Glu Lys Asp Glu Cys Ile Ile
                            120
        115
                                                 125
```

Ala